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Displays

GDH 17 Series

GDH 17B: 17" Black Desktop LCD Monitor with Stand

GDH 17B-T: 17" Black Desktop LCD Monitor with Stand and Touchscreen

GDH 17W: 17" Beige Desktop LCD Monitor with Stand

GDH 17W-T: 17" Beige Desktop LCD Monitor with Stand and Touchscreen

USER'S MANUAL

VER. 1.1 • 2003

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CyberResearch®, Inc.

www.cyberresearch.com

25 Business Park Dr., Branford, CT 06405 USA

203-483-8815 (9am to 5pm EST) FAX: 203-483-9024

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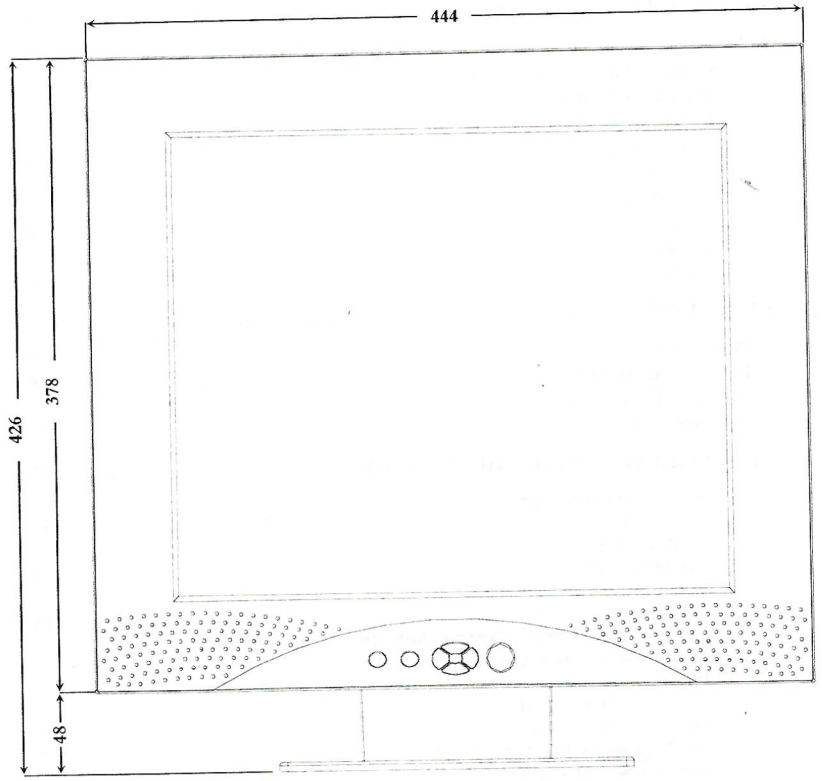
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*Measurements in mm

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CHAPTER 1

INTRODUCTION

BEFORE INSTALLING YOUR MONITOR

Read this manual cover to cover.
Pay special attention to all warnings and cautions.

DO NOT use computer components not recommend by the manufacturer.

Do not attempt to service the monitor yourself. If a problem occurs, contact the CyberResearch, Inc.

ABOUT YOUR MONITOR

This monitor is a microprocessor-controlled, color monitor that uses a TFT LCD panel. The monitor conforms to EPA Energy Star and VESA DPMS (Display Power Management Signaling) power management standards.

RGB MODE

This monitor is equipped with a microprocessor that identifies your computer's video mode and allows user to adjust the setting.

FACTORY-PRESET MODES

Table 1 shows standard the video mode setting pre-adjusted at the factory to ensure accurate video display. These settings are stored in the monitor's memory.

Table 1: Factory-Preset Modes

Mode	Resolution	H-Freq.(KHz)	V-Freq(Hz)
NEC	640x400	24.83	56.4
VGA	640x350	31.47	70
	720x400	31.47	70
	640x480	31.47	60
	640x480	37.86	72
	640x480	37.5	75
SVGA	800x600	35.16	56.3
	800x600	37.88	60.3
	800x600	48.08	72.2
	800x600	46.87	75
XGA	1024x768	48.36	60
	1024x768	56.47	70
	1024x768	60	75
SXGA	1280x1024	63.98	60
	1280x1024	80	75
Macintosh	640x480	35	66.7
	832x624	49.7	74.55
	1024x768	48.78	60
	1024x768	60.241	74.927

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SPECIFICATIONS

Display		
Display Type		LCD flat panel
Video Input Types		Standard analog VGA (15-pin)
Screen Size (viewable area, diagonal)		17.0"
Display Filter Screen Size		15" to 18"
Display Brightness		250 nits (High-Bright)
Display Filter Brightness		High-bright (250 to 340 nits)
Resolution, max.		1280 x 1024 pixels
Maximum Number of Colors		16 million colors (dithering)
Maximum Color Depth in Bits		24-bit color
Scanning Frequency	Vertical	60Hz....75Hz
	Horizontal	31.47KHz....80KHz
Chassis		
Mounting Configuration		Desktop / benchtop Swivel-arm mount
Protection Rating		NEMA 1
Front Panel Material		Impact resistant ABS plastic
Chassis Material		Impact resistant ABS plastic
Front Panel Color		Black
Mounting		
VESA Mounting Hole Pattern		100x100mm VESA mounting holes
Stand Features		Matching desktop stand included. Footprint: 8.6" wide x 7.5" deep.
Audio		
Speaker(s)		Built-in speakers
Audio Special Features		• Two 2W speakers are built into the bottom of the display front panel • One stereo 1/8" audio in and one audio out (pass-through) jack

Indicators, Switches, & Controls		
On Screen Display (OSD) Control Functions		Brightness Contrast RGB color adjustments Horizontal position Vertical position Color balance Color temperature adjustment Graphics/text mode select Select language for OSD controls Position of OSD controls Phase adjustment Auto adjustment
Front Panel Controls	Power On/Off Switch	1 on/off switch
	OSD Controls	OSD controls for menu navigation (5 buttons)
Indicators	Power On/Off	LED indicates power on
	System in Sleep Mode	Shown by change in LED color
Signal Connectors		
Video Input Connectors		HD15 (standard VGA) connector
Power Supply		
Power Supply Form Factor		External (fully enclosed)
Nominal Input Voltage(s)		110/220VAC
Input Voltage Range(s)		100...240VAC
Input Frequency		50...60Hz
Input Current		1.8A, max.
Power Supply Input Connector		NEMA standard male PC cord socket w/ 6-ft USA power cord
Output Power		50W
Output Voltage(s)		+12VDC
Cable from Power Supply to Display (length)		4ft (1.22m)
DC Input Power Info		
DC Input Voltage(s)		+12VDC
DC Power Input Connector on Display		On rear panel
Power Consumption		
Power Consumption Details		45W max., active; 1W in standby mode
Cooling		
Cooling Summary		Convection (runs in silence)

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Environmental Specifications	
Operating Temperature	32°F....113°F (0°C....45°C)
Storage Temperature	-4°F....140°F (-20°C....60°C)
Relative Humidity, noncondensing	10%....85%
Safety & Standards Compliance	
Safety/Approvals	Meets UL standards Meets CE standards Meets TUV standards Meets FCC Part 15 - Class B EMI specs
Safety/Approvals, Power Supply	Meets CE standards Meets TUV standards Meets FCC Part 15 - Class A EMI specs UL approved in USA & Canada ("cULus" mark)
Power Management	EPA Energy Star compliant DPMS (Display Power Management Signaling)
Dimensions	
Width	17.46" (443.48mm)
Height	14.88" (377.95mm)
Depth (including handles)	2.8" (71.12mm)
Height with Included Stand	16.77" (425.96mm)

PRECAUTIONS

HANDLING

- The monitor must be treated with care and not be exposed to impact and shock. The monitor's LCD includes a fragile glass panel.
- Do not expose to sharp shock.
- Never touch the display area or rub on it with a hard, stiff object or tools. The panel is easily scratched, even though the screen is protected with a glass filter.
- Every effort has been made to protect the LCD panel

CLEANING

- The display area is highly prone to scratching. Do not use ketone type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It might permanently damage the panel.
- Approved cleaners are: water, IPA (Iso Prophyl Alcohol) and Hexane.
- Don't let water or oil penetrate the monitor. If droplets are allowed to dry on the screen staining and discoloration may occur.
- Keep food particles and fingerprints away from the display area.

STORAGE

- Do not store the monitor @ more than 35 degree Celsius or humidity higher than 70% and no condensation.

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- Store in dark places away from sunlight and ultra violet (UV) radiation. It is possible for an air bubble to develop inside the glass panel if these storage precautions are not adhered to.

CHAPTER 2

PRODUCT PACKAGE

Open the shipping carton and check the contents. If any items are missing or damaged, contact CyberResearch, Inc.

The package should include the following items:

- Analog Color TFT LCD Monitor
- Accessories:
  1. VGA cable x 1
  2. Power adapter x 1
  3. Audio cable
  4. Power Cord x 1
  5. User's manual x 1

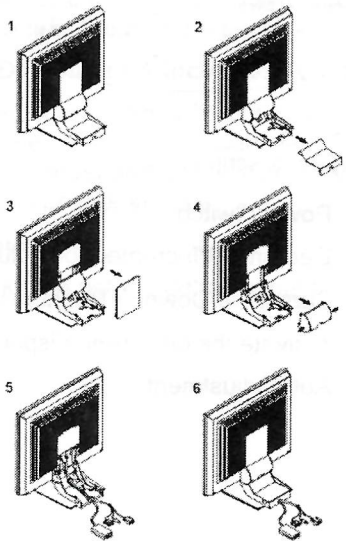
INSTALLING THE MONITOR

The monitor is equipped with an auto sensing power supply for voltage ranges: 110~240VAC, 60/50Hz. Confirm the line voltage designation on the rear panel of the monitor.

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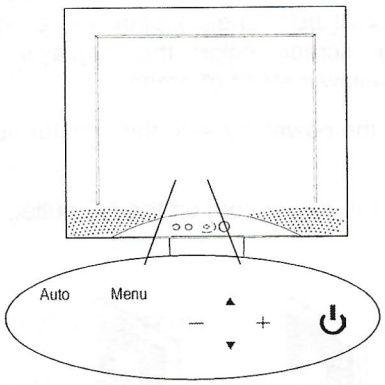
Follow These Steps To Install The Monitor:

1. Before you connect the cables, make sure that the monitor and CPU power switches are in the OFF position.
2. Plug one end of the 15-pin signal cable to the monitor and the other end to the video signal connector at the rear of the system. Tighten the two screws on the cable connector at both ends. Failure to do so could result in abnormal screen color; the display's LED may also appear yellow instead of green.
3. Connect the power cable to the monitor using the AC/DC adapter.
4. Connect the power cord on the AC outlet, see the below drawing.



CONTROL FUNCTIONS

The Monitor control functions are located in the lower right-hand corner of the bezel, as indicated below. The control functions are also described on the following page.



The control key description

1. ⏻ : Power Switch
2. - / + : Decrement/Increment or Volume control
3. ∇/ Δ : Cursor Up/Down or Brightness control
4. MENU : Activate the on screen display function
5. Auto : Auto adjustment

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DESCRIPTIONS

1. ⏻ : **Power Switch**

   Use the power switch to turn the power ON or OFF. We recommend turning your system power on first, then the LCD monitor.

2. **Menu**

   Press the Menu key to activate the on screen display. It is also a toggle key. Press it twice to turn off the OSD. After 30 sec. of idle time, the OSD screen will automatically turn off.

3. ∇ & Δ : Select key / Brightness Control keys

   The - & +buttons have different functions depending upon whether the OSD menu is launched. OSD Launched: used to scroll through OSD to select functions. OSD Closed: Adjust the Brightness value.

4. **- & +: Decrement & Increment/Volume Control keys**

   The - & +buttons have different functions depending upon whether the OSD menu is launched. OSD Launched: - & + adjust Contrast and other display values; OSD Closed: - & + adjust speaker volume.

5. **Auto Adjustment**

   Use this key to get the better visual performance.

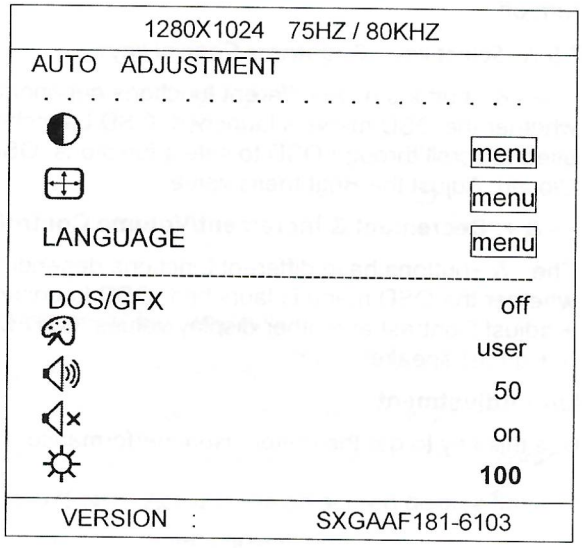
CHAPTER 3 ADJUSTING THE MONITOR

The LCD monitor is designed to work with a range of compatible video adapters on the market. Due to possible deviations between adapters, some adjustment may be necessary to achieve optimum performance.

ADJUSTMENT PROCEDURE

1. Activate the OSD screen by pressing the MENU key. The OSD appears in the center of the screen as shown below:

OSD SCREEN



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2. Use ▼&▲ to make a selection.

3. Use the - & + key to perform the desired function or, select and enter a sub-menu (if applicable).

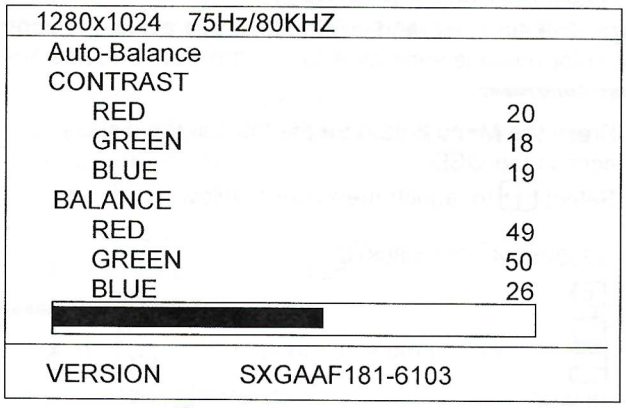
AUTO-ADJUSTMENT

We strongly recommend using this menu item to optimize display settings.

To activate the Auto Adjustment feature, press the button marked Auto on the front of the display.

RGB ADJUSTMENT

1. Press the menu button on the front of the display to access the OSD (as seen below).



2. Select ◐
3. Use ▼&▲ buttons to make a selection
4. Adjust using + & -

CONTRAST VALUE ADJUSTMENT

1. Press the Menu button on the front of the display to access the OSD
2. Select ◐
3. Select Contrast
4. Adjust using - & + buttons

COLOR BALANCE ADJUSTMENT

1. Press the menu button on the front of the display to access the OSD
2. Select ◐
3. Select Balance
4. Adjust using - & + buttons

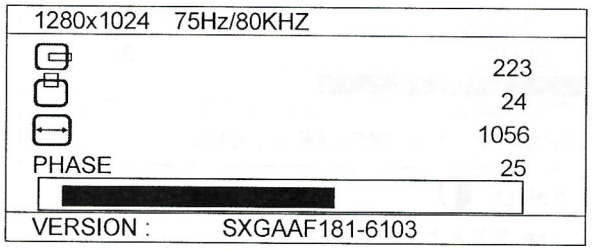
OR

5. Adjust RGB levels separately

NOTE: The simplest (and quickest) way to adjust the contrast and color balance settings is to use the Auto-balance feature.

GEOMETRY ADJUSTMENT

1. Press the Menu button on the front of the display to access the OSD
2. Select ✣ to launch menu seen below



NOTE: Press the Menu button to exit.

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Vertical & Horizontal Position Adjustment

1. Press the Menu button on the front of the display to access the OSD
2. Select 
3. Select 
4. Use the ▼ & ▲ buttons to adjust

Viewing Screen Size Adjustment

1. Press the Menu button on the front of the display to access the OSD
2. Select 
3. Select 
4. Use the ▼ & ▲ buttons to adjust

Phase Adjustment

Adjusting the phase tracking can reduce display flicker. *However*, adjusting incorrectly will cause an unstable, flickering image.

To adjust the phase tracking:

1. Press the Menu button on the front of the display to access the OSD
2. Select 
3. Select Phase
4. Use the ▼ & ▲ buttons to adjust

Language Adjustment

The GDH 17B's OSD supports five languages:

1280x1024 75Hz/80KHZ
English German French Italian Spanish
VERSION : SXGAAF181-6103

DOS/GFX ADJUSTMENT

Toggle between: 640x400 (graphic mode) or 720x400 (text mode).

1. Press the Menu button on the front of the display to access the OSD
2. Select DOS/GFX
3. Toggle ON or OFF

COLOR TEMPERATURE ADJUSTMENT

1. Press the Menu button on the front of the display to access the OSD
2. Select
3. Adjust using - & +

When Color Temperature is set @ 6500 or 9300, the value can't be changes.

BRIGHTNESS ADJUSTMENT

1. Press the Menu button on the front of the display to access the OSD
2. Select
3. Adjust using - & +

AUDIO VOLUME CONTROL ADJUSTMENT (OPTIONAL)

1. *Without pressing Menu*, use - & + to adjust volume

—OR—

1. Press Menu
2. Select
3. Adjust using - & +

MUTE ON/OFF (OPTIONAL)

1. Press the Menu button on the front of the display to access the OSD
2. Select
3. Adjust using - & +

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UNDERSTAND THE DISPLAY RESOLUTION SETTING

On the OSD screen you will see the Horizontal frequency (HF), Vertical frequency (VF), display resolution (MODE) and the monitor Firmware version (ROM LEVEL). This information is automatically detected by the monitor, none of the information listed can be changed from this view.

APPENDIX

SIGNAL CONNECTOR PIN-OUT

POWER CONNECTOR

Pin 1	Ground
Pin 2	+12V output

RGB SIGNAL CONNECTOR

Pin 1	Analog Red Input
Pin 2	Analog Green Input
Pin 3	Analog Blue Input
Pin 4	Ground
Pin 5	Digital Ground
Pin 6	Analog Red Ground
Pin 7	Analog Green Ground
Pin 8	Analog Blue Ground
Pin 9	NC
Pin 10	Sync Ground
Pin 11	Ground
Pin 12	SDA (DDC Data)
Pin 13	H. Sync
Pin 14	V. Sync
Pin 15	SCL (DDC CLK)

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Product Service

Diagnosis and Debug

CyberResearch, Inc. maintains technical support lines staffed by experienced Applications Engineers and Technicians. There is no charge to call and we will return your call promptly if it is received while our lines are busy. Most problems encountered with data acquisition products can be solved over the phone. Signal connections and programming are the two most common sources of difficulty. CyberResearch support personnel can help you solve these problems, especially if you are prepared for the call.

To ensure your call's overall success and expediency:

1) Have the phone close to the PC so you can conveniently and quickly take action that the Applications Engineer might suggest.
2) Be prepared to open your PC, remove boards, report back-switch or jumper settings, and possibly change settings before reinstalling the modules.
3) Have a volt meter handy to take measurements of the signals you are trying to measure as well as the signals on the board, module, or power supply.
4) Isolate problem areas that are not working as you expected.
5) Have the source code to the program you are having trouble with available so that preceding and prerequisite modes can be referenced and discussed.
6) Have the manual at hand. Also have the product's utility disks and any other relevant disks nearby so programs and version numbers can be checked.

Preparation will facilitate the diagnosis procedure, save you time, and avoid repeated calls. Here are a few preliminary actions you can take before you call which may solve some of the more common problems:

1) Check the PC-bus power and any power supply signals.
2) Check the voltage level of the signal between SIGNAL HIGH and SIGNAL LOW, or SIGNAL+ and SIGNAL– . It CANNOT exceed the full scale range of the board.
3) Check the other boards in your PC or modules on the network for address and interrupt conflicts.
4) Refer to the example programs as a baseline for comparing code.

Warranty Notice

CyberResearch, Inc. warrants that this equipment as furnished will be free from defects in material and workmanship for a period of one year from the confirmed date of purchase by the original buyer and that upon written notice of any such defect, CyberResearch, Inc. will, at its option, repair or replace the defective item under the terms of this warranty, subject to the provisions and specific exclusions listed herein.

This warranty shall not apply to equipment that has been previously repaired or altered outside our plant in any way which may, in the judgment of the manufacturer, affect its reliability. Nor will it apply if the equipment has been used in a manner exceeding or inconsistent with its specifications or if the serial number has been removed.

CyberResearch, Inc. does not assume any liability for consequential damages as a result from our products uses, and in any event our liability shall not exceed the original selling price of the equipment.

The equipment warranty shall constitute the sole and exclusive remedy of any Buyer of Seller equipment and the sole and exclusive liability of the Seller, its successors or assigns, in connection with equipment purchased and in lieu of all other warranties expressed implied or statutory, including, but not limited to, any implied warranty of merchant ability or fitness and all other obligations or liabilities of seller, its successors or assigns.

The equipment must be returned postage prepaid. Package it securely and insure it. You will be charged for parts and labor if the warranty period has expired.

Returns and RMAs

If a CyberResearch product has been diagnosed as being non-functional, is visibly damaged, or must be returned for any other reason, please call for an assigned RMA number. The RMA number is a key piece of information that lets us track and process returned merchandise with the fastest possible turnaround time.

PLEASE CALL FOR AN RMA NUMBER!

Packages returned without an RMA number will be refused!

In most cases, a returned package will be refused at the receiving dock if its contents are not known. The RMA number allows us to reference the history of returned products and determine if they are meeting your application's requirements. When you call customer service for your RMA number, you will be asked to provide information about the product you are returning, your address, and a contact person at your organization.

Please make sure that the RMA number is prominently displayed on the outside of the box.

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